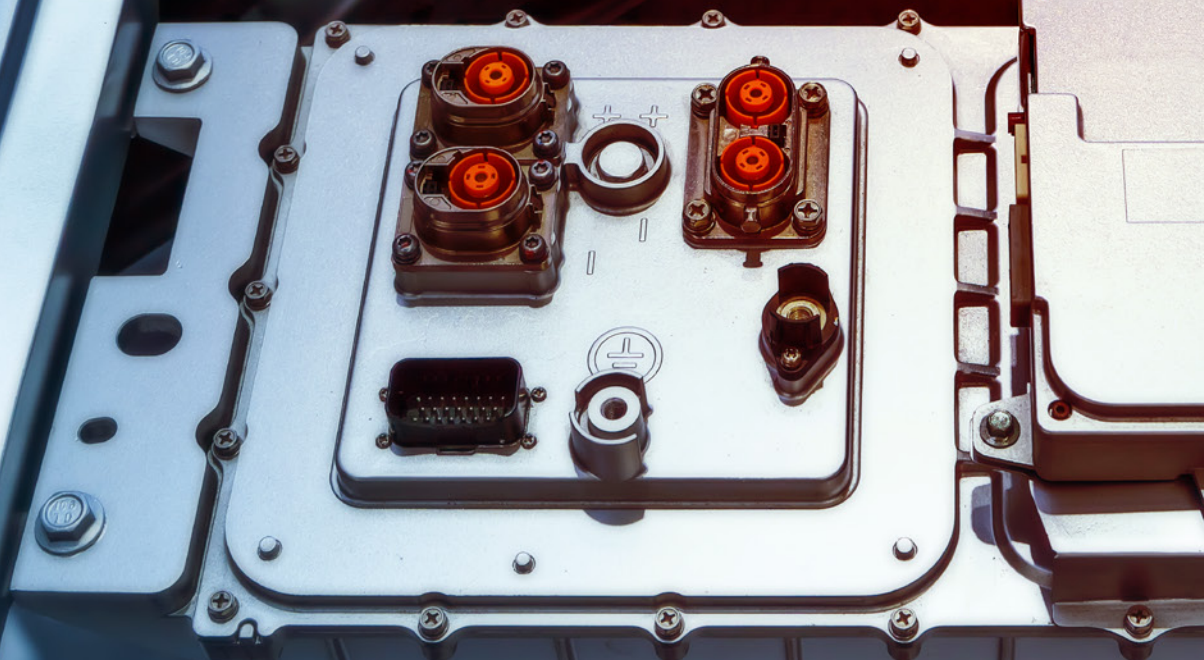


Battery Cycler and Emulation Test System

Model RZ-X2-100K-HG

High Power Battery Cycler and Emulation for inverter,
and traction motor testing

*Scalable up to 2 MW output
through series and parallel configuration*



RZ-X2-100K-HG

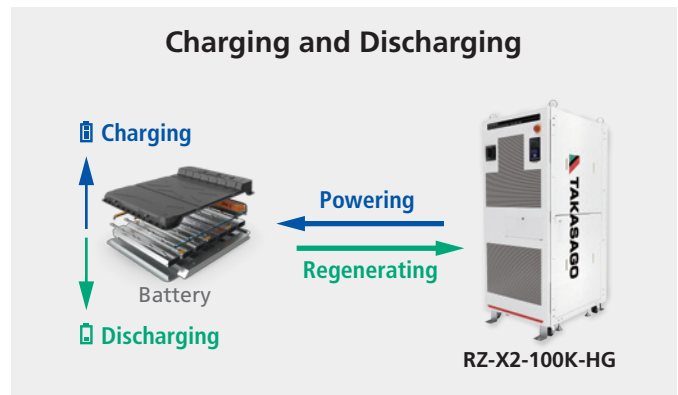
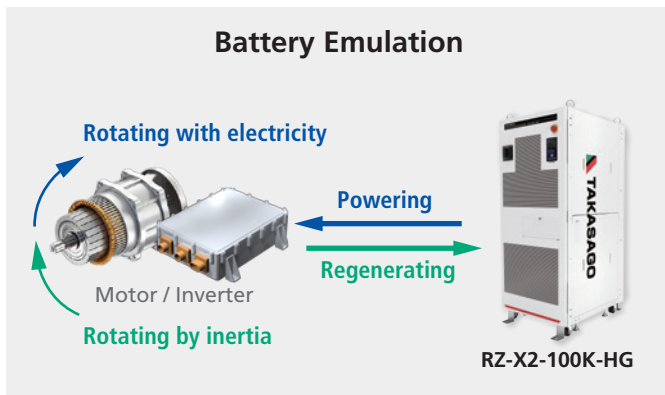
Empowering Your eMobility Testing in a Realistic Vehicle Environment

The RZ-X2-100K-HG provides all voltage, current and power suitable for testing batteries, inverters, and traction motors.

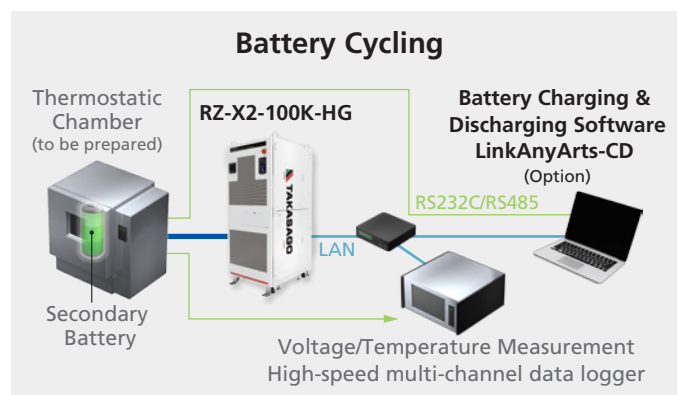
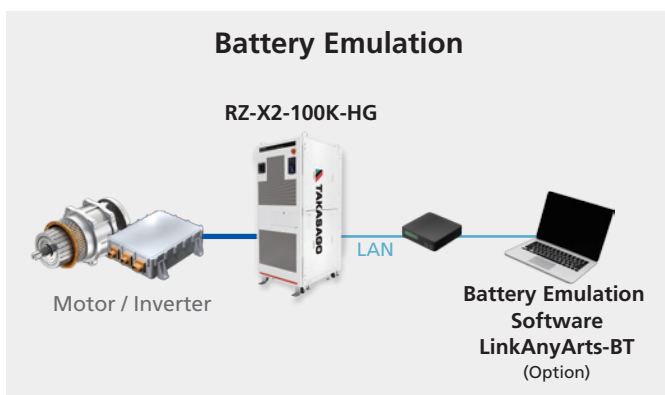


Use Case

- ▼ Test System supports battery emulation (including charging/discharging) and verification testing for inverters and traction motors



- ▼ Extend battery verification testing with the optional LinkAnyArts software



"LinkAnyArts" is a trademark or registered trademark of TAKASAGO, LTD.

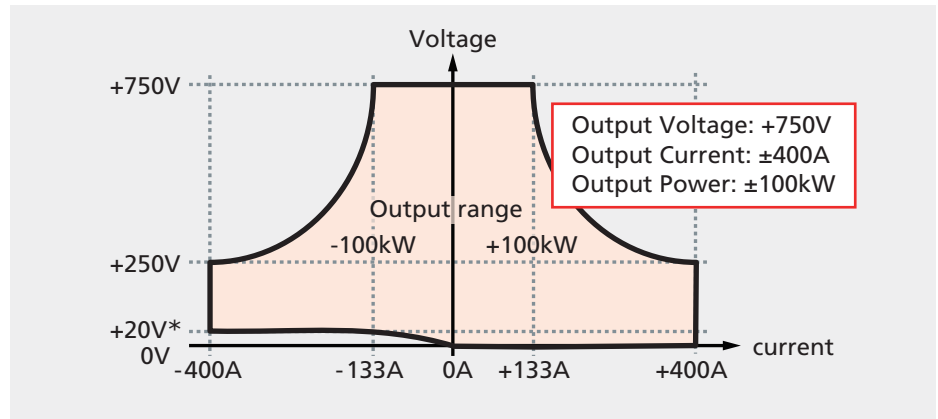
Specifications

Variable voltage and current anywhere within the 100kW power envelope.

Rated output voltage : + 750V

Rated output current : $\pm 400\text{A}$

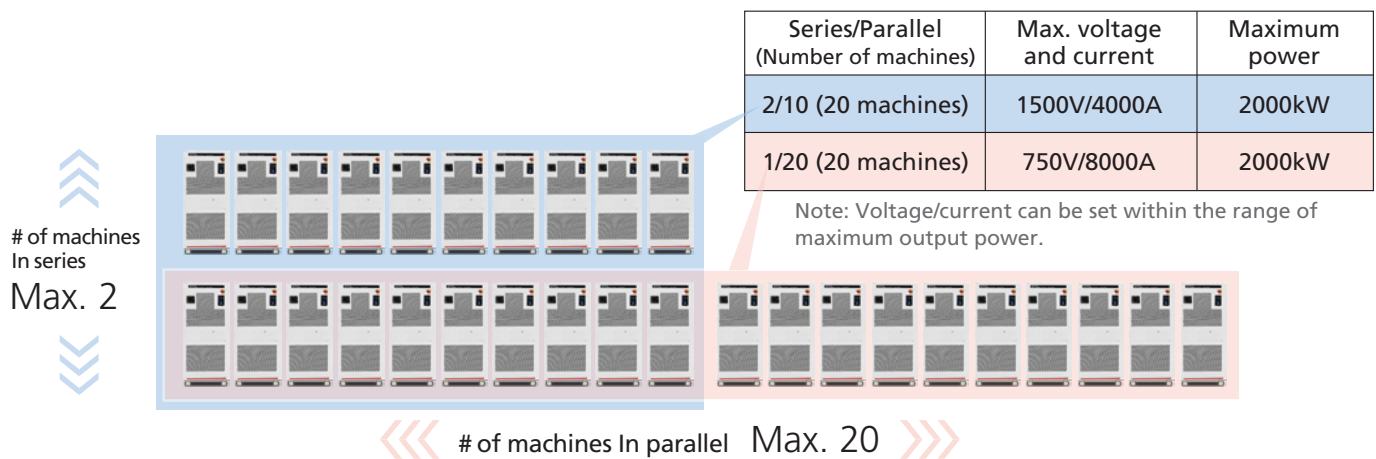
Rated output power : $\pm 100\text{kW}$



*Voltage set accuracy during power and regeneration below 20V is not guaranteed.

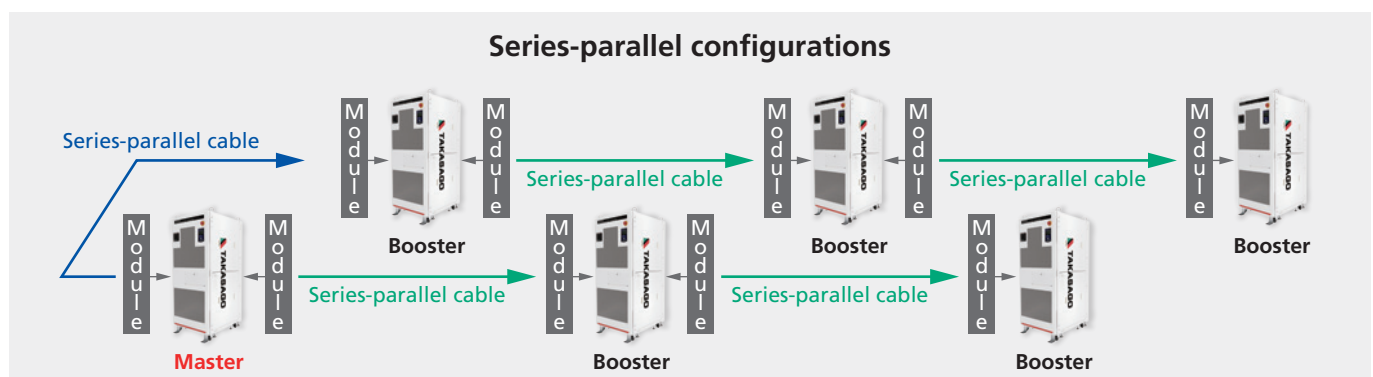
Features

Supplies 2 MW with Max. 20 machines expansion in series and parallel configurations.



Scalable system with automatic detection of connected machines.

Master machine controller configures all booster machines automatically.



- Emulates actual battery use scenarios while maintain stability. Fully independent of DUT load functions.

Sample

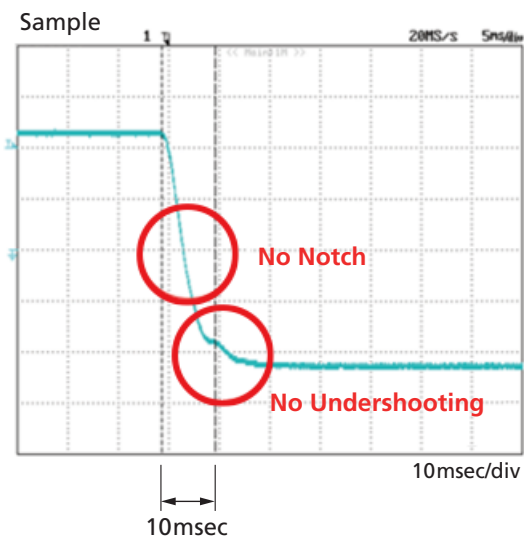
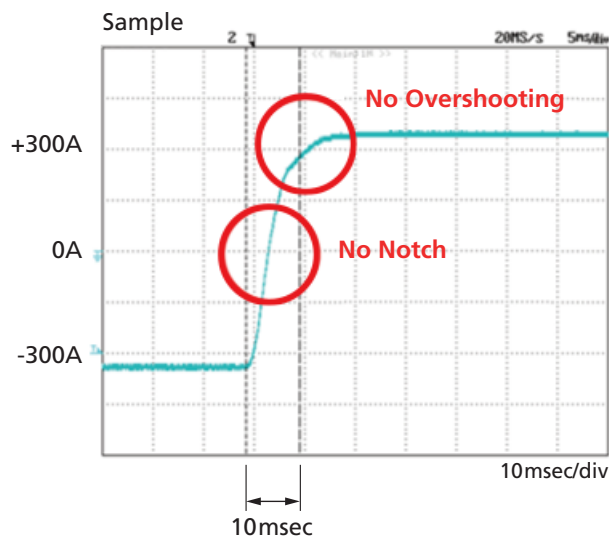


1000:1
 10.0V/div
 AC1MΩ 20M

100A:1V
 100A/div
 DC1MΩ 20M

- Minimize stress on the DUT by eliminating current overshooting and undershooting.

- Current response $\leq 10\text{m sec.}$
- Seamless switching between sourcing and loading.
- Minimize stress on the DUT by eliminating current overshooting and undershooting.



Features

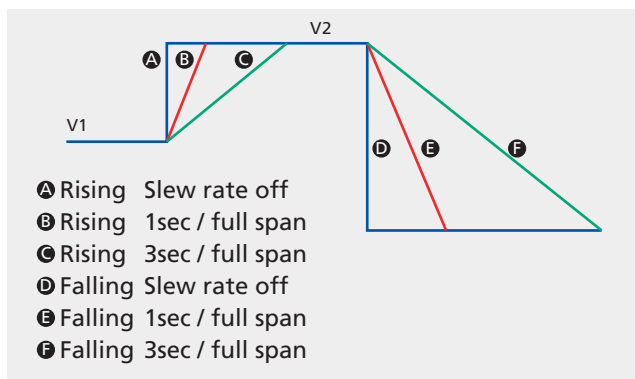
▼ Safety features

- Overvoltage, overcurrent, and overtemperature detection.
- Earth leakage breaker.
- Operational status light on top of machine.
- Emergency Stop button
- Thermostatic Chamber monitoring with optional LinkAnyArts software.

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▼ Adjustable slew rates

Slew rate of output voltage and current can be set to minimize rush current. This function is adjustable for rising and falling voltages, currents.



▼ Sequential operation

Built in sequencer functionality.

▼ Large console panel

7-inch console panel display provides easy operation and comfortable visibility.

▼ High efficiency and low Noise

Achieves regenerative efficiency exceeding 90%.

▼ High stability

Accurate output characteristic and loss-evaluation independent of DUT load conditions.

▼ Fan noise control

Output power sensing automatically reduces fan RPM for lower output power.

▼ LAN connectivity for control and monitoring

Setting, Output control and Output monitoring are available from PC with LAN connection.

▼ External Interface

Interfaces such as Analog input to control machine, Contact Output, and Contact Input for E-stop are available.

▼ Thermostatic chamber interlock

▼ CAN/CAN FD

Communicate with DUT over both CAN interfaces.

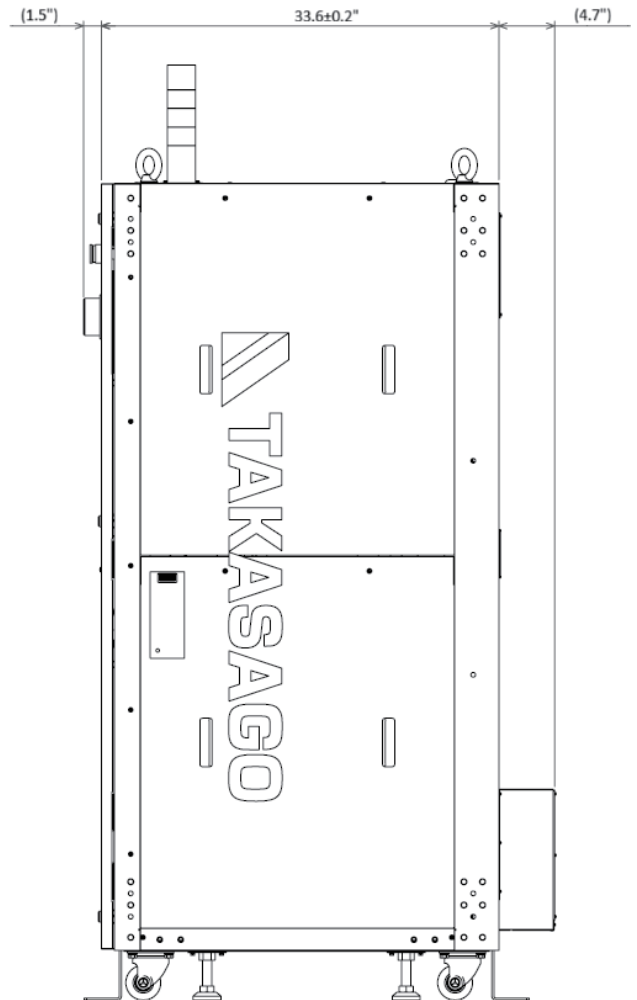
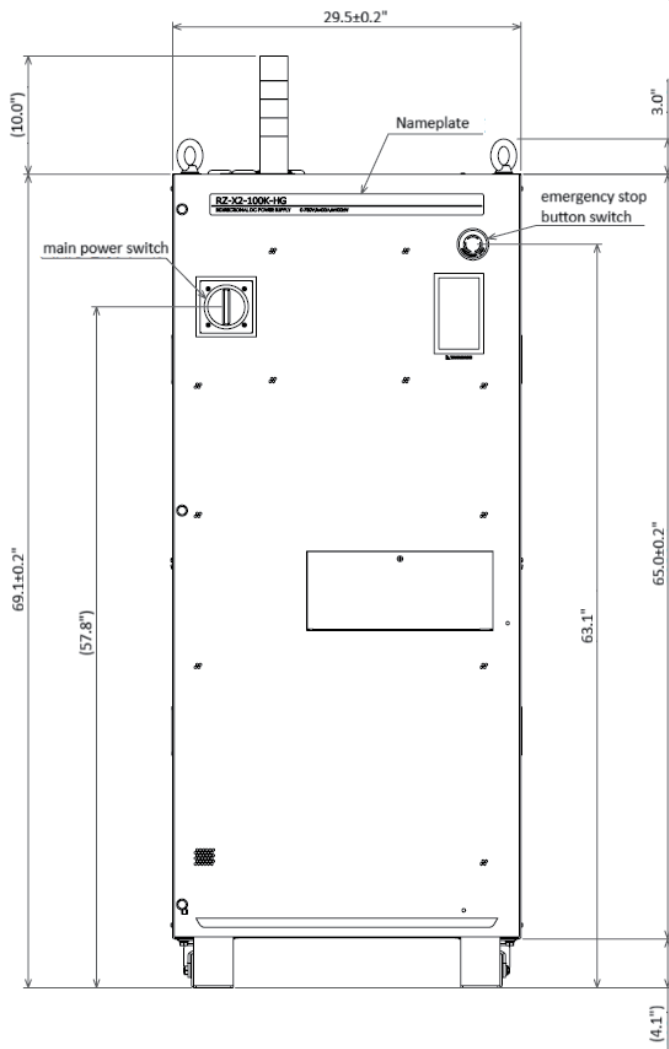
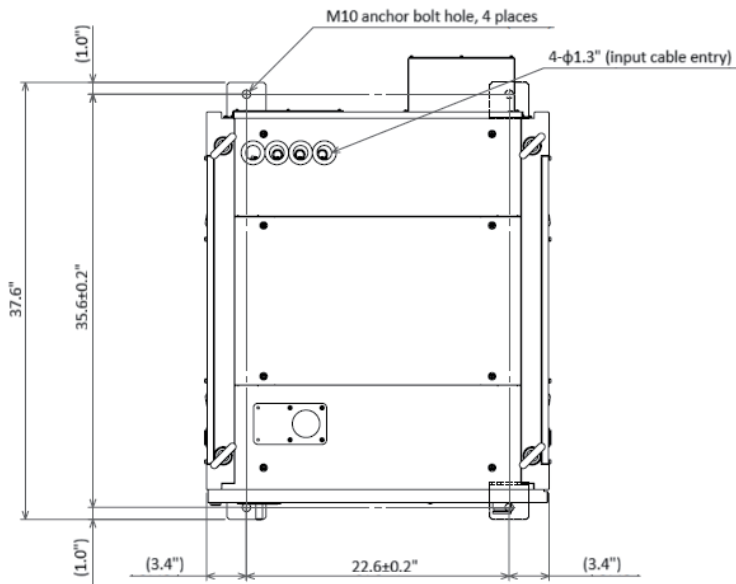
▼ Control Software (Option)

- LinkAnyArts-CD for battery charging & discharging
- LinkAnyArts-BT for battery emulation
- LinkAnyArts-SC2 for sequencing of tests.

"LinkAnyArts" is a trademark or registered trademark of TAKASAGO, LTD.

Specifications

- Dimension: 29.6"(W) x 79.1"(H) x 37.6"(D). (inches)
- Weight: 1,345 lbs.



Datasheet of RZ-X2-100K-HG Battery Cycler and Emulation Test System

Model			Specifications
Output	Rated Output Voltage		+750V
	Rated Output Current		±400A
	Rated Output Power		±100kW
Constant Voltage (CV)	Set Range	High Range	+0.00V to +787.50V
		Low Range	+0.000V to +78.750V
	Setting Accuracy	High Range	Within ±(0.1%+0.75V) of set value <note 1>
		Low Range	Within ±(0.1%+0.075V) of set value <note 1>
	Setting Resolution	High Range	20mV
		Low Range	2mV
Constant Current (CC)	Set Range	High Range	−420.00A to +420.00A
		Low Range	−42.000A to +42.000A
	Setting Accuracy	High Range	Within ±(0.2%+400mA) of set value <note 2>
		Low Range	Within ±(0.2%+40mA) of set value <note 2>
	Setting Resolution	High Range	20mA
		Low Range	2mA
Constant Power (CP)	Set Range	Voltage: High / Current :High	−105000W to +105000W
		Voltage: High / Current :Low	−31500W to +31500W
		Voltage: Low / Current: High	−31500W to +31500W
		Voltage: Low / Current: Low	−3150W to +3150W
Current Response Time	Rising Time (CC mode)		10ms or less. Time for load current to reach 10 to 90% of set value
	Falling Time (CC mode)		10ms or less. Time for load current to reach 90 to 10% of set value
Operating Power Supply			AC432V - 528V, Three Phases, 45Hz - 65Hz
Input current (RMS value) <note 5>		AC432V	150Arms or less
Inrush current (peak value) <note 6>		AC528V	200A or less
Power Efficiency			91% or higher <note 3> / Above 92% <note 4>
External Dimension			29.6”(W) × 79.1”(H) × 37.6”(D) (inches)
Master Machine	Max. number of Series Connection		2 Machines
Booster Machine	Max. number of Parallel Connection		20 Machines
Serial-parallel operation	Max. Rated Output Voltage		+1500V
	Max. Rated Output Current		±8000A
	Max. Rated Output Power		±2000kW
Other Functions	Variable internal resistance		Available
	External Control (insulated)		Output ON/OFF, Output control, E-stop signal, and status
	Communication Functions		LAN / CAN and CAN FD Interface
	Sequence Operation		5-pattern operation
Operational Environment			Ambient temperature 0 to 104°F (Operation) / 0 to 140°F (Save), Humidity 20 to 85%RH (Operation)/ 20 to 85%RH (Save), No freezing, No Condensation, and No corrosive gases
Weight			Less than 1,345 lbs. <note 7>
Input Terminal/ FG Terminal			M10 bolt & nut for Terminal block and Bar terminal
Output Terminal			M12 bolt & nut for Bar terminal

note 1: Applicable from output voltage setting value +20V (ambient temperature: 74.3°F ± 41°F) . However, voltage set accuracy during power and regeneration below 20V is not guaranteed.

note 2: Applicable from output voltage +20V (ambient temperature 74.3°F ± 41°F) . However, voltage set accuracy during power and regeneration below 20V is not guaranteed.

note 3: At 480V AC input, rated output power, and rated output current

note 4: At 480V AC input, rated output power, and rated output voltage

note 5: For rated power output and rated output current

note 6: Excluding the charging current component that flows to the capacitor of the internal EMC filter circuit immediately, Approx. 1ms, after input power breaker is turned on.

note 7: If the underfloor load capacity of the potential location to install the RZ-X2-100K-HG is insufficient, please contact us.

TAKASAGO, LTD. reserves the right to modify the features and specifications in this brochure at any time without prior notice or obligation. For the most up-to-date information, please visit our website at www.takasago-ss.co.jp/en/.

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